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Retrospective analysis of patients applying to a health board to determine disability rates

Sağlık kuruluna engellilik oranlarının belirlenmesi için başvuran hastaların retrospektif analizi

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ABSTRACT

Introduction: Disabled is defined as a person who loses their physical, mental, spiritual, emotional, and social abilities to various degrees, and who therefore has difficulty in adapting to social life and meeting daily needs. Our aim is to analyze those patients who applied to our hospital's medical board due to disability and to contribute to the statistics available in this area.

Material and Method: Between 2015 and 2019, variables such as gender, age, disability rate, report duration, and additional diseases were analyzed among those patients who applied to Dr. Abdurrahman Yurtaslan Oncology Education and Research Hospital Health Board due to disability. Statistical Package for the Social Sciences (SPSS) version 21 (SPSS Inc., Chicago, IL, USA) was used for statistical analysis of the study data.

Results: Of the 2237 patients, 41.9% (n=938) were men and 58.1% (n=1299) were women. Patients' mean age, regardless of gender, was found to be 55.29±16.32 years. Patients' average disability score was 66.4±21.29; the three most common diseases were found to be cancer (n=1339, 28.19%), endocrinological and metabolic diseases (n=578, 12.16%), and cardiovascular system diseases (n=1056, 22.23%), respectively. Patients with a disability rate of 40% or above comprised 90% (n=2013) of the total number of patients; 5.1% (n=115) of the patients were fully dependent. Among all those who received reports, the rate of patients who received continuous reports was 71.9% (n=1610). The proportion of patients under 65 years of age (n=1598, 71.4%) was found to be higher than the proportion of patients above 65 years of age (n=636, 28.4%).

Conclusion: Hospital health boards play an important role in the detection and rating of disability. When we compared the data we obtained in our study with the literature, several differences could be found. It is thought that these differences may be related to hospital roles or differences in interpretation among the various health boards. For this reason, it is important to follow up whether the standards are applied as much as developing standards that will ensure unity in practice

Keywords: Balthazard, 40%, disability report, cancer

ÖZ

Giriş: Engelli, doğuştan veya sonradan bedensel, zihinsel, ruhsal, duygusal ve sosyal yeteneklerini çeşitli derecelerde kaybeden bu nedenle toplumsal yaşama uyum sağlama ve günlük gereksinimlerini karşılamada zorluk çeken kişi olarak tanımlanmaktadır. Amacımız hastanemiz sağlık kuruluna engellilik nedeniyle başvuran hastaları analiz ederek bu alanda var olan istatistiklere katkıda bulunmaktır.

Gereç ve Yöntem: 2012-2019 yılları arasında Dr. Abdurrahman Yurtaslan Onkoloji Eğitim ve Araştırma Hastanesi Sağlık Kurulu'na engellilik nedeniyle başvuran hastalarda cinsiyet, yaş, engellilik oranı, rapor süresi, ek hastalıklar gibi değişkenler analiz edildi. İstatistiksel analiz için statistical package for the social sciences (SPSS) version 21 (SPSS Inc., Chicago, IL, USA) kullanıldı.

Bulgular: 2237 hastanın %41,9'u (n=938) erkek, %58,1'i (1299) kadınlardan oluşmaktaydı. Cinsiyet ayrımı olmaksızın bakılan yaş ortalaması 55,29±16,32, engellilik puanı ortalaması 66,4±21,29; en sık görülen ilk 3 hastalık 1. Kanser: n=1339 (%28,19) 2. Endokrinolojik ve Metabolik Hastalıklar: n=578 (%12,16) 3. Kardiyovasküler Sistem Hastalıkları: n=1056 (%22,23) olarak tespit edildi. Engellilik oranı %40 ve üzeri olanlar, toplam hasta sayısının %90'ını (n=2013) oluşturmaktaydı. Hastaların %5,1'i (n=115) tam bağımlıydı. Tüm rapor alan hastalar arasında sürekli rapor alan hastaların oranı %71,9 (n=1831) olarak tespit edildi. 65 yaş altı hastaların oranı (n=1598, %71,4) 65 yaş üstü hastalardan (n=636, %28,4) daha fazla bulundu.

Sonuç: Engelliğin tespiti ve derecelendirilmesinde hastane sağlık kurulları önemli bir görevi yerine getirmektedir. Çalışmamızda elde ettiğimiz verileri literatür ile kıyasladığımızda farklılıkların olduğu görülmüştür. Bu durumun hastane rolleriyle ilişkisi olabileceği gibi sağlık kurulları arasındaki yorum farklılıklarından da kaynaklanabileceği düşünülmektedir. Bu nedenle uygulamada birlikteliği sağlayacak olan standartların geliştirilmesi kadar takibi de önem arz etmektedir.

Anahtar Kelimeler: Balthazard, %40, engellilik oranı, kanser

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INTRODUCTION

Disability is part of being human. Almost everyone will be disturbed temporarily or permanently at some stage of their life, and will encounter increasing difficulties as they age (1). According to the definition made within the framework of the legislation in Turkey, a disabled person is someone "who loses his or her physical, mental, spiritual, emotional and social abilities at various degrees and therefore has difficulty in adapting to social life and meeting daily needs" (2). It is estimated that over one million people live with some form of disability in Turkey. Due to the aging population in Turkey and the increase in people with chronic health conditions, the number of people with disabilities is gradually increasing (3). The International Classification of Functioning, Disability, and Health (ICF) has provided definitions and classifications related to disability in order to create a common language (4). The rate of severe disability among the Turkish population is 2.9% across all age groups, while moderate and severe disability is 15.3%. The severe disability rate among women was 0.7% for the 0–14 year age group, 2.8% for the 15–59 year age group, and 10.5% for the 60+ year age group; comparatively, the severe disability rate among men was 0.7% for the 0–14 year age group, 2.6% for the 15–59 year age group, and 9.8% for the 60+ year age group. The global rise in diabetes, cardiovascular diseases (heart disease and stroke), mental disorders, cancer, and respiratory diseases will have a profound effect on disability. These diseases are estimated to account for 66.5% of all years with disability in low- and middle-income countries (1). Disability increases with aging in both genders. Numerous studies show that ADL disability in old age is an important medico-social problem (5-10). If evaluated together with the economic development of the countries, it has been reported that disability decreased to 11.8% in countries with high incomes, and 18.0% in countries with low incomes (11). According to the information obtained from the Address Based Population Registration System, the population of Turkey was 83,154,997 as of December 31, 2019; 50.2% of this population were men and 49.8% were women. The last study that estimates the distribution of disabled people across Turkey on a provincial basis is the '2011 Population and Housing Survey'.

According to the results of the Population and Housing Survey Study, 6.9% (4,876,000 people) of those individuals aged 3 years or over have at least one disability; 5.9% for males and 7.9% for females. The European Union Labor Force Survey conducted a special study on the employment of disabled people in 2011. According to the results obtained from this report, the rate of individuals with a long-standing health condition or basic activity disorder is 33.2% in Turkey; the highest rate is seen in Finland (56%) and the lowest is seen in Greece (14%). The 'National Disability Data System' was created by the Ministry of Family and Social Policies and, according to these data, the number of disabled people alive is 2,533,209, of which 1,423,334 are men and 1,109,875 are women. The number of people with severe disabilities is 777,569 (12,13).

The aim of this study is to contribute to the statistics in this field by examining the health board records of our hospital, which has an important patient potential throughout Turkey, especially in Ankara and the surrounding cities.

MATERIAL AND METHOD

The study was planned as cross-sectional, retrospective, and descriptive study. Patients who applied to the Health Board of Health Sciences University Abdurrahman Yurtaslan Ankara Oncology Training and Research Hospital between 2015 and 2019 were included in this study. Ethical approval was received from Health Sciences University Abdurrahman Yurtaslan Ankara Oncology Training and Research Hospital Ethics Committee (Date: 08.07.2021, Decision No: 2021-06/1232). All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The International Statistical Classification of Diseases and Related Health Problems (ICD-10) list, as approved by the World Health Assembly, was used in the classification of diseases (14). Variables such as gender, age, disability rate, reporting period, and additional diseases were analyzed among the study population. Disability rate was calculated according to the Balthazard formula. Statistical Package for the Social Sciences (SPSS) version 21 (SPSS Inc., Chicago, IL, USA) was used for statistical analysis of the study data.

RESULTS

A total of 2,237 patients were included in our study, of which 41.9% (n=938) were men and 58.1% (1299) were women; the number of female patients was higher than that of men. ($p<0.01$). The mean age, regardless of gender, was 55.29±16.32 years, 54.12±16.87 years for men and 56.37±16.01 years for women. The average rate of disability among the study population, calculated according to the Balthazard formula, was 66.4±21.29%; 66.5±22.94% in men and 66.4±22.94% in women. There was no statistically significant difference was found between men and women regarding average rate of disability ($p>0.05$) (**Table 1**). While the average

number of diseases in a person was found to be 2.12, this number was 2.02 for men and 2.18 for women. The average number of diseases in women was higher than it was in men (p<0.01) (**Table 1**). According to Balthazard formula, patients with a disability rate of 40% and above accounted for 90% (n=2013) of all the total number of patients, 41% (n=827) and 59% (n=1186) for the male and female patient groups, respectively. Overall, 5.1% (n=115) of the patients were fully dependent, 5.4% (n=120) were partially dependent, and 89.5% (n=2002) were not independent. Fully dependent, partially dependent, and independent patient rates among male patients were analyzed as being 5.4% (n=51), 6% (n=56), and 88.6% (n=831), respectively; same rates in women were analyzed as being 4.9% (n=64), 4.9% (n=64), and 90.1% (n=1171), respectively (Table 1). The rate of patients under 65 years of age (n=1598, 71.4%) was found to be higher than the rate of patients over 65 years of age (n=636, 28.4%). The rate of female patients aged under 65 and over 65 years was 71.3% and 28.7%, respectively; the rate of male patients aged under 65 and over 65 years was 71.6% and 28.4%, respectively (Table 1). The three most common diseases without gender discrimination were found to be; first, cancer (n=1339, 28.19%); second, endocrinological and metabolic diseases (n=578, 12.16%); third, cardiovascular system diseases (n=1056, 22.23%). Among for male patients., the three most common diseases were found to be: first, cancer (n=472, 24.10%); second, endocrinological and metabolic diseases (n=212, 10.82%); third, cardiovascular diseases (n=393, 20.07%). Concerning female patients; first, cancer (n=879, 31.18%); second, endocrinological and metabolic diseases (n=366, 12.98%); and third, cardiovascular diseases (n=663, 23.52%) (**Table 1**).

Among all patients who received reports, 71.9% (n=1610) received continuous reports (**Table 2**). When the patients were grouped according to their place of birth, Ankara (n=755, 29.7%) ranked first, Yozgat ranked second (n=151, 5.9%), and Çorum ranked third (n=132, 5.2%).

DISCUSSION

Our study is important because it reflects the disability-related records of a health institution in Turkey with reference hospital status. In our study, the rate of female patients was higher than males (58.1% and 41.9%, respectively) and the most common disease group was found to be cancer (28.2%). The average disability rate among patients was 66.4±21.29%, with men and women having similar rates (66.4±22.94% and 66.5±22.94%, respectively). Patients with a disability rate of 40% or above were found to comprise 90% of the total number of patients and 5.1% of fully dependent patients.

On evaluation of the gender distribution of the patient profiles who applied to the health board, the rate of male and female distribution was analyzed as follows: 60.9% of them were female and 39.1% were male in the study by Koçak et al. (15); 52.4% were male and 39.1% were female in the study by Çakır et al. (16); 59% were male and 47.6% were female in the study by Benli et al. (17); 61.5% of them were male and 38.5% were female in the study by Baltacı et al. (18); 45.4% were female and 54.6% were male in the study by Uysal et al. (19); 32% were female; 68% were male in the study by Adar et al. (20), and 17.8% were female and 82.2% male in the study by Özdil (21) . In our study, the rate of female

Table 2. Validity period of disability report

Validity period (month)	Number of patient (n)	%
12	231	10.3
24	88	4
36	44	2
60	264	11.8
Permanent (Continuous)	1610	71.9

Table 1. Patient characteristics

	Male	Female	Total	p
Gender (n/%)	938/41.9	1299/58,1	2237	<0.01
Age (mean±SD)	54.12±16.87	56.37±16.01	55.29±16.32	>0.05
Average disability rate	66.5±22.94	66.4±22.94	66.4±21.29	>0.05
Cancer (n/%)	472/24.10	879/31.18	1339/28.19	
Endocrinological and metabolic diseases (n/%)	212/10.82	366/12.98	578/12.16	
Cardiovascular diseases (n/%)	393/20.07	663/23.52	1056/22.2	
Average number of diseases in a person (n)	2.02	2.18	2.12	<0.01
According to average disability rate ≥40% (n/%)	827/88.2	1186/91.3	2013/90	<0.01
Fully dependent (n/%)	51/5.4	64/4.9	115/5.1	
Partially dependent (n/%)	56/6	64/4.9	120/5.4	
Independent (n/%)	831/88.6	1171/90.1	2002/89.5	
<65 years of age (n/%)	672/71.6	926/71.3	1598/71.4	
>65 years of age (n/%)	266/28.4	266/28.7	636/28.4	

n: number, %: percent, SD: standard deviation

patients was 58.1%, and the rate of male patients was 41.9%. On evaluation of the literature, it can be seen that only the study by Koçak et al. included more female patients than male patients, as was the case for our study.

The average age of those patients who applied to the Health Board for a disability report was then evaluated. In our study, this average age was found to be 55.29±16.32 years; 54.12±16.87 years for males and 56.37±16.01 years for females. In the study by Kocak et al. (15), which was conducted using a geriatric patient group, the mean age of patients was 77.62±7.74 years; 78.07±7.54 years for women and 76.93±8.02 years for men. In the study by Cakır et al. (16), in which patients aged 18 years and under were not included, the mean age of patients was found to be 57.14±17.61 years. In the study conducted at İnönü University (18), the mean age was 33.18±26.63 years; 31.69±25.62 years for men, and 35.50±28 years for women. In a study conducted at Dicle University (20), the mean age of patients was found to be 36.97±25.76 years. In the study conducted at Afyonkarahisar University (20) the mean age was 37.57±26.03.

In our study, the average rate of disability, calculated according to the Balthazard formula, was 66.4±21.29%; 66.5±22.94% among men and 66.4±22.94% among women. In a study conducted with geriatric patients in the Kırşehir region, this rate was found to be 79.96±17.79%; 79.66±17.61% among women and 80.41±18.24% among men (15). It was calculated as 59.58±24.33% for the Karsıyaka State Hospital study (16), 67.36±22.53% for the Inonu University study (18), 55.13±28.96% for the Dicle University study (19), 61.02±27.45% Afyonkarahisar University study (20), and 55.85±26.00 for the Gaziantep University (21).

According to the regulations, the "severely disabled" definition determines those people who will benefit from those rights related to disability at the highest level. These rights include many privileges, from transportation to care fees. In the study by Koçak et al. (15), the rate of severely disabled patients was found to be 28.9%; furthermore, the rate of severely disabled people was found to be 15.7% in the study by Çakır et al. (16), 21.5% in the study by Benli et al. (17), 56.3% in the study by Baltacı et al. (18), 36.4% in the study Adar et al. (20) and 5.1% for our study. It was found that the rate found in our study is quite different from those of other studies.

In our study, the rate of patients whose disability was not limited to a certain period but that was continuously evaluated was found to be 71.9%. Among other studies in the literature, the rate of patients with continuous disability was reported as being 44.7% in the study of Koçak et al. (15), 91.3% in the study by Çakır et al. (16), 62% in the study by Benli et al. (17), 57.6% in the study by Baltacı et al. (18),48.4% in the study by Uysal et al. (19), 38.7% in the study Adar et al. (20), and 71.5% in the study Özdil et al. (21).

According to the relevant law, disabled individuals are required to obtain a Disability Health Board Report of at least 40% in order to benefit from the rights and opportunities provided to them (2). The rate of patients with a disability above 40% was found to be 96% in the study by Koçak et al. (15) , 80.7% in the study by Cakir et al. (16), 69.5% in the study by Benli et al. (17), 91.1% in the study by Baltacı et al. (18), 74.4% in the study by Uysal et al. (19), and 38.7% in the study Adar et al. (20); in our study, this rate was found to be 90%.

Worldwide, the ranking of disability adjusted life years (DALYs) is as follows: first, neuropsychiatric diseases (13%); second, injuries (12%); third, cardiovascular disease (10%); fourth, perinatal conditions (7%); fifth, respiratory infections (6%); sixth, HIV/AIDS (6%); seventh, malignant neoplasms (5%) (22). In our study, the most common three disease groups classified according to the ICD 10 encoding were oncological diseases, endocrine and metabolic disorders, and cardiovascular disorders, respectively. In the study by Koçak et al. (15), this ranking was found to be cardiovascular, musculoskeletal, and visual disorders, respectively. In the study by Cakir et al. (16), endocrinological problems ranked first, musculoskeletal diseases ranked second, and cardiovascular diseases ranked third. In the study by Benli et al. (17), musculoskeletal diseases were ranked first; ear, nose, and throat diseases were ranked second; and visual system diseases were ranked third. In the study by Uysal et al. (19), it was stated that most reports were prepared for mental disorders, followed by visual disorders in second place.

CONCLUSION

As a result, hospital health boards play an important role in the detection and grading of disabilities. When we compared the data we obtained in our study with the literature, certain differences were observed. It is thought that these differences may be related to hospital roles, or may be due to differences of interpretation among the health boards. For this reason, it is important to follow up whether the standards are applied as much as developing standards that will ensure unity in practice.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was initiated with the approval of the Ankara Dr. Abdurrahman Yurtaslan Oncology Training and Research Hospital Ethics Committee (Date: 08.07.2021, Decision No: 2021-06/1232).

Informed Consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee Evaluation Process: Externally peer-reviewed.

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